***** QUERY RESULTS *****

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=> d his l29

     FILE 'HCAPLUS' ENTERED AT 14:24:38 ON 09 OCT 2008
L29          21 S L28 AND (AY<2004 OR PY<2004 OR PRY<2004)

=> d his l29

     FILE 'HCAPLUS' ENTERED AT 14:24:38 ON 09 OCT 2008
L29          21 S L28 AND (AY<2004 OR PY<2004 OR PRY<2004)

=> d que l29
L2            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  OXYGEN/CN
L3            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  7782-44-7/RN
L4            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 OR L3
L5       890933 SEA FILE=HCAPLUS ABB=ON  PLU=ON  OXYGEN OR L4
L6       267509 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L5 (P) (ANALY? OR PROCESS? OR
                DETECT? OR MEASUR?)
L7        23138 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "GAS SENSORS"+OLD,UF/CT
L8         3741 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 (L) L5
L9         3229 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6 AND L8
L10        1999 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 (L) (APPARATUS? OR DEVICE?
                OR METHOD? OR INSTRUMENT? OR PROCESS?)
L14       32400 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L5 (L) (SCAVENG? OR SENSOR?
                OR SENSING?)
L15       21767 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14 AND (ANALY? OR PROCESS?
                OR DETECT? OR MEASUR?)
L18         337 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10 AND (OXYGEN CONCENT?)
L19          28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18 AND CIRCUIT?
L21        1613 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15 AND (OXYGEN CONCENT?)
L22          63 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 AND (GAS MIXTURE? OR
                CLOSE? REACT? OR CLOSE? CIRCUIT? OR MEASUR? CIRCUIT?)
L23           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 AND OSI
L24          39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 AND (APPARATUS? OR
                DEVICE? OR METHOD? OR INSTRUMENT? OR PROCESS? OR PROCEDURE?)
L25        1743 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "COLORIMETRIC INDICATORS"+OLD,
                UF/CT
L26           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L24 AND L25
L27           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 AND L25
L28          28 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 OR L23 OR L26 OR L27
L29          21 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L28 AND (AY<2004 OR PY<2004
                OR PRY<2004)


=> d his l45

     (FILE 'COMPENDEX, INSPEC, PASCAL, SCISEARCH' ENTERED AT 14:25:54 ON 09
     OCT 2008)
L45           7 S L44 AND (AY<2004 OR PY<2004 OR PRY<2004)

=> d que l45
L17           3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (CLOSE? REACT? OR CLOSE?
                MEASUR?) (2A) (CIRCUIT#)
L30       44323 SEA OXYGEN (W) (CONCENTRAT? OR ANALY? OR SCAVENG? OR SENSOR?
                OR SENSING? OR DETECT? OR MEASUR?)
L31       18460 SEA L30 AND (APPARATUS? OR DEVICE? OR METHOD? OR INSTRUMENT?
                OR PROCESS?)
L32         415 SEA L31 AND (GAS MIXTURE? OR CLOSE? REACT? OR CLOSE? CIRCUIT?
                OR MEASUR? CIRCUIT?)
L33          54 SEA L32 AND (OXYGEN (W) SCAVENG? OR INDICAT?)
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L39           5 SEA L33 AND GAS SENSOR?
L44           7 SEA (L17 OR L39) NOT (FOOD OR PACKAGING OR FOOD PRODUCT# OR
                FOOD TECHNO?)
L45           7 SEA L44 AND (AY<2004 OR PY<2004 OR PRY<2004)


=> dup rem l29 l45
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FILE 'SCISEARCH' ENTERED AT 14:57:19 ON 09 OCT 2008
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PROCESSING COMPLETED FOR L29
PROCESSING COMPLETED FOR L45
L46          26 DUP REM L29 L45 (2 DUPLICATES REMOVED)
                ANSWERS '1-21' FROM FILE HCAPLUS
                ANSWER '22' FROM FILE COMPENDEX
                ANSWERS '23-25' FROM FILE INSPEC
                ANSWER '26' FROM FILE SCISEARCH

=> d l46 1-21 ibib abs hitind; d l46 22-26 ibib ab ind

L46  ANSWER 1 OF 26  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        2005:549768  HCAPLUS  Full-text
DOCUMENT NUMBER:         143:82571
TITLE:                   Sensor for exhaust gases of an internal combustion
                         engine, and process for its functioning and
                         operation
INVENTOR(S):             Stahl, Roland
PATENT ASSIGNEE(S):      Robert Bosch GmbH, Germany
SOURCE:                  Fr. Demande, 25 pp.
                         CODEN: FRXXBL
DOCUMENT TYPE:           Patent
LANGUAGE:                French
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ----------------    ----   --------    --------------------   --------
     FR 2864147           A1    20050624    FR 2004-53068          20041220 <--
     DE 10360775          A1    20050728    DE 2003-10360775       20031223 <--
     JP 2005180419        A     20050707    JP 2004-324707         20041109 <--
     US 20050173265       A1    20050811    US 2004-22175          20041223 <--
```

PRIORITY APPLN. INFO.: DE 2003-10360775 A 20031223 <--

AB This sensor for determining the oxygen concentration in various places of an internal combustion engine exhaust gas system comprises a first exhaust gas sensor upstream from a provided catalyst, a first signal with a fast regulating circuit of the air/fuel ratio of the engine and a second exhaust gas sensor downstream from the provided catalyst. At the same time, the first and second sensor have an external pumping electrode, an interior pumping electrode, a Nernst electrode and a reference electrode. The first sensor is connected to a first functioning and operation circuit; the second sensor is connected to a second functioning and operation circuit. At least the first or the second circuit controls the first exhaust gas sensor or the second exhaust gas sensor as Nernst sensors. This sensor system may be used for the control of the regeneration of an NOx storage catalyst.

IC ICM F01N011-00
ICS F01N003-20; F02D041-14; F02D041-30; G01N027-41

CC 59-3 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 47

IT Exhaust gas catalytic converters
(NOx storage catalyst, control of regeneration of; sensor for exhaust gases of internal combustion engine, and process for its functioning and operation)

IT Engines
(exhaust systems; sensor for exhaust gases of internal combustion engine, and process for its functioning and operation)

IT Gas sensors
(oxygen; sensor for exhaust gases of internal combustion engine, and process for its functioning and operation)

IT Control apparatus
Exhaust gases (engine)
Solid electrolyte gas sensors
(sensor for exhaust gases of internal combustion engine, and process for its functioning and operation)

IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oxygen sensor for exhaust gases of internal combustion engine, and process for its functioning and operation)

L46 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:331435 HCAPLUS Full-text
DOCUMENT NUMBER: 140:325870
TITLE: Gas concentration detecting apparatus
INVENTOR(S): Niwa, Mitsunobu
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 19 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040074773	A1	20040422	US 2003-681138	20031009 <--
JP 2004132840	A	20040430	JP 2002-297772	20021010 <--
JP 4016790	B2	20071205		

PRIORITY APPLN. INFO.: JP 2002-297772 A 20021010 <--

AB The invention relates a gas concentration detecting apparatus capable of appropriately making a decision on activation of each of a pump cell, a monitor cell and a sensor cell of its gas concentration sensor. In the apparatus, a control circuit outputs an oxygen concentration value on the

basis of a current flowing when a voltage is applied to the pump cell and outputs an NOx concentration value on the basis of a current flowing at the voltage application to the sensor cell. Moreover, the control circuit sep. makes a decision on activation of the pump cell and a decision on activation of the sensor cell in the middle of the activation of the sensor. Still moreover, the control circuit makes the decision on the activation of the sensor cell after the activation of the pump cell reaches completion.

IC ICM G01N027-26
INCL 204425000; 204426000
CC 59-3 (Air Pollution and Industrial Hygiene)
ST gas concn detecting app exhaust gas
IT Air pollution
(control; gas concentration detecting apparatus)
IT Electrochemical cells
Electrodes
Exhaust gases (engine)
Gas sensors
Gases
(gas concentration detecting apparatus)
IT Gas sensors
(oxygen; gas concentration detecting apparatus)
IT 11104-93-1, NOx, analysis
RL: ANT (Analyte); POL (Pollutant); ANST (Analytical study); OCCU (Occurrence)
(gas concentration detecting apparatus)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(sensors; gas concentration detecting apparatus)

L46 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:539913 HCAPLUS Full-text
DOCUMENT NUMBER: 141:64021
TITLE: Oxygen sensing
INVENTOR(S): Fitzgerald, Matthew S.; Berdich, Edward C.; Draper, Peter M.
PATENT ASSIGNEE(S): Doxs Technology Systems, Inc., USA
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6758962	B1	20040706	US 2000-665086	20000920 <--
PRIORITY APPLN. INFO.:			US 1999-155672P P	19990923 <--

AB Oxygen concentration measurement is carried out over a broad range by an instrument using a zinc-air cell having a lower-than-nominal p.d. imposed across its electrodes by a shunt branch incorporating the source-drain circuit of a field effect transistor (FET). A feedback circuit is used to improve linearity of the output and cell life without sacrificing the broad dynamic range achieved using the FET shunt branch.

IC ICM G01N027-416
INCL 205783000; 205782000; 205782500; 204406000; 204431000; 204432000
CC 79-2 (Inorganic Analytical Chemistry)
IT Process control
(feedback; method and apparatus for oxygen sensing in gaseous mixture)
IT Mixtures

(gaseous; method and apparatus for oxygen sensing in gaseous mixture)
IT Air
Electrochemical cells
Field effect transistors
(method and apparatus for oxygen sensing in gaseous mixture)
IT Gas sensors
(oxygen; method and apparatus for oxygen sensing in gaseous mixture)
IT 7440-66-6, Zinc, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(method and apparatus for oxygen sensing in gaseous mixture)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(sensors; method and apparatus for oxygen sensing in gaseous mixture)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:178236 HCAPLUS Full-text
DOCUMENT NUMBER: 140:222215
TITLE: Oxygen concentration detection device
INVENTOR(S): Kondo, Junichi; Koike, Tomonori
PATENT ASSIGNEE(S): Denso Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004069370	A	20040304	JP 2002-226247	20020802 <--
PRIORITY APPLN. INFO.:			JP 2002-226247	20020802 <--

AB The device is suited for monitoring O concentration in automobile engine exhaust gas. The device comprises an elec. current resistor connected to one of the O sensor terminal, an elec. voltage supplier, a differential amplification circuit of the standard elec. voltage and the generation elec. voltage, an A/D converter to convert the output of the amplification circuit to digital signal, and an O concentration detector based on the converted A/D signal. The standard elec. voltage is controlled by a variable elec. voltage supplier based on the on/off duty ratio of the detector.
IC ICM G01N027-41
ICS F02D045-00
CC 59-3 (Air Pollution and Industrial Hygiene)
ST oxygen conen detection device
automobile engine exhaust gas
IT Exhaust gases (engine)
(combustion engine; oxygen concentration sensor for monitoring O concentration in automobile engine exhaust gas)
IT Gas analysis
(engine exhaust; oxygen concentration sensor for monitoring O concentration in automobile engine exhaust gas)
IT Automobiles

Combustion engines
(exhaust gas anal.; oxygen concentration sensor for monitoring O concentration in automobile engine exhaust gas)
IT Electric circuits
Gas sensors
(oxygen concentration sensor for monitoring O concentration in automobile engine exhaust gas)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oxygen concentration sensor for monitoring O concentration in automobile engine exhaust gas)

L46 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:349817 HCAPLUS Full-text
DOCUMENT NUMBER: 138:348069
TITLE: Apparatus and circuit for measurement of oxygen concentration
INVENTOR(S): Suzuki, Seiichiro
PATENT ASSIGNEE(S): Teijin Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003130841	A	20030508	JP 2001-327502	20011025 <--
PRIORITY APPLN. INFO.:			JP 2001-327502	20011025 <--

AB The apparatus or circuit is equipped with a limiting-current-type O sensor and a current sensor which measures the output current of the O sensor in regard to the voltage applied to it. The current sensor may be a current transducer. Measurement errors of the apparatus caused by temperature changes or long-term use are suppressed, and O concns. are measured with high precision.
IC ICM G01N027-41
CC 79-2 (Inorganic Analytical Chemistry)
ST oxygen concn measurement app
current sensor; current sensor oxygen concn measurement circuit
IT Electric circuits
(O concentration measurement apparatus or circuit equipped with O sensor and current sensor for high precision measurement)
IT Transducers
(current; O concentration measurement apparatus or circuit equipped with O sensor and current sensor for high precision measurement)
IT Gas sensors
(oxygen; O concentration measurement apparatus or circuit equipped with O sensor and current sensor for high precision measurement)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(sensors; O concentration measurement apparatus or circuit equipped with O sensor and current sensor for high precision measurement)

L46 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:616062 HCAPLUS Full-text

DOCUMENT NUMBER: 137:144548
TITLE: Nitrogen oxide sensor and method for detecting nitrogen oxides
INVENTOR(S): Thoreson, Thomas R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020108870	A1	20020815	US 2000-735124	20001212 <--

PRIORITY APPLN. INFO.: US 2000-735124 20001212 <--

AB An exemplary embodiment of a planar exhaust gas sensor for determining the nitrogen oxide and oxygen concentration in exhaust gas is disclosed. The sensing element has a first pumping electrochem. cell, a reference cell, and a second pumping cell arranged so that both oxygen and nitrogen oxide partial pressures in an exhaust gas can be sensed. Nitrogen oxides in an exhaust gas enter the sensing element through a protective material. The nitrogen oxides then diffuse through a first pumping cell, and a porous material. At the pumping electrode of a second pumping cell, the nitrogen oxide is reduced, and the ionic oxygen thereby produced is pumped across a solid electrolyte to a second inner electrode. A measured current produced in a second pumping cell circuit is directly proportional to the nitrogen oxides in the exhaust gas.

IC ICM G01N027-407
INCL 205781000
CC 59-3 (Air Pollution and Industrial Hygiene)
IT Sensors
(electrochem., solid-state; planar exhaust gas sensor for determining nitrogen oxide and oxygen concentration in exhaust gas)
IT Exhaust gases (engine)
(planar exhaust gas sensor for determining nitrogen oxide and oxygen concentration in exhaust gas)
IT 7440-57-5, Gold, uses
RL: NUU (Other use, unclassified); USES (Uses)
(first pumping electrode,first inner electrode and outer electrode material; planar exhaust gas sensor for determining nitrogen oxide and oxygen concentration in exhaust gas)
IT 7440-06-4, Platinum, uses
RL: NUU (Other use, unclassified); USES (Uses)
(first pumping electrode,first inner electrode, outer electrode and/or reference electrode material; planar exhaust gas sensor for determining nitrogen
oxide and oxygen concentration in exhaust gas)
IT 7440-05-3, Palladium, uses
RL: NUU (Other use, unclassified); USES (Uses)
(second inner electrode and reference electrode material; planar exhaust gas
sensor for determining nitrogen oxide and oxygen concentration in exhaust gas)
IT 7440-16-6, Rhodium, uses
RL: NUU (Other use, unclassified); USES (Uses)
(second pumping electrode material; planar exhaust gas sensor for determining
nitrogen oxide and oxygen concentration in exhaust gas)

L46 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:384837 HCAPLUS Full-text
DOCUMENT NUMBER: 136:379206
TITLE: Zero shift compensation oxygen sensor
INVENTOR(S): Meyer, Emilio
PATENT ASSIGNEE(S): Panametrics, Inc., USA
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6389880	B1	20020521	US 2001-805302	20010313 <--
WO 2002073175	A1	20020919	WO 2002-US5700	20020225 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002242255	A1	20020924	AU 2002-242255	20020225 <--
EP 1370852	A1	20031217	EP 2002-707885	20020225 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004529332	T	20040924	JP 2002-572389	20020225 <--
PRIORITY APPLN. INFO.:			US 2001-805302 A	20010313 <--
			WO 2002-US5700 W	20020225 <--

AB A magnetic wind oxygen sensing device provides a local magnetic field defined by magnetic pole pieces, and employs a plurality of thermal elements in a bridge in the local magnetic field to measure oxygen concentration in a surrounding gas mixture, creating a magnetic wind and determining the thermal effects induced in sensing elements as a result of the wind. A pair of sensing elements are positioned such that one lies upstream and one downstream of each wind generator, and both are substantially in thermal equilibrium with adjacent gas so they are unaffected by changes in thermal capacity of background gas components. When oxygen is present, the two sensing elements are passively cooled below, and heated above the temperature set by a local heater, resp. In the absence of oxygen, the sensors reside at the same temperature, so they are self zeroing, and this zero point does not shift when background gases with differing thermal characteristics are present. The arrangement is also immune to thermal creep and changes in phys. position of the sensing elements that would otherwise introduce bridge asymmetries, offsets and drift artifacts.

IC ICM G01N027-74
ICS G01N025-20
INCL 073025020
CC 79-2 (Inorganic Analytical Chemistry)
IT Electric circuits
Gas sensors
Magnetic field
Magnetic sensors
Paramagnetism
(oxygen determination in gas mixture by zero shift compensation oxygen sensor)

IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oxygen determination in gas mixture by zero shift compensation oxygen sensor)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:291828 HCAPLUS Full-text
DOCUMENT NUMBER: 136:318495
TITLE: Amperometric measuring or detection method and apparatus
INVENTOR(S): Leibl, Stephanus; Wieland, Christoph
PATENT ASSIGNEE(S): Endress & Hauser Conducta Gesellschaft Fuer Mess- Und Regeltechnik m.b.H.& Co., Germany
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1197751	A2	20020417	EP 2001-124094	20011010 <--
EP 1197751	A3	20040414		
EP 1197751	B1	20061227		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 10051089	A1	20020502	DE 2000-10051089	20001014 <--
DE 10051089	C2	20020905		
AT 349693	T	20070115	AT 2001-124094	20011010 <--

PRIORITY APPLN. INFO.: DE 2000-10051089 A 20001014 <--

AB The amperometric method uses an oxygen sensor for the determination of the oxygen concentration. In addition to the working electrode there are opposing and reference electrodes. The analyte is reduced or oxidized at the working electrode. The potential of the working electrode with respect to the reference electrode, the polarization voltage, is pre-set and the current between the working electrode and opposing electrode is used as measuring signal. When used in an analytic mode, the polarization voltage is changed depending on the current measured, so that for a strong current, a high potential is applied and vice versa.

IC ICM G01N027-49
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 72
ST oxygen sensor amperometric app electrode polarization potential elec current
IT Electric circuits
Electric current-potential relationship
Electrodes
Electrolytic polarization
(amperometric measuring or detection method and app .)
IT Partial pressure
(amperometric measuring or detection method and apparatus for oxygen)
IT Gas sensors
(amperometric; amperometric measuring or detection method and apparatus)
IT Gas sensors

(oxygen; amperometric measuring or detection method and apparatus)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(amperometric measuring or detection method and apparatus)

L46 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:601383 HCAPLUS Full-text
DOCUMENT NUMBER: 137:288114
TITLE: Bipotentiostat Driven Sensor (BDS) oxygen measurement technology
AUTHOR(S): Sun, Zhenhe; Broy, Steve
CORPORATE SOURCE: Teledyne Instruments, City of Industry, CA, 91748, USA
SOURCE: Technical Papers of ISA (2002), 428(Proceedings - Analysis Division Symposium, 2002), 150-161
CODEN: TPISF7
PUBLISHER: ISA - The Instrumentation, Systems, and Automation Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
AB The BDS technol. was developed for measuring ppb level of oxygen in industrial processes. The sensor consists of four electrodes; a silver catalyzed gas diffusion sensing electrode, a porous vitreous carbon blocking electrode(BE), a silver/silver oxide reference electrode(RE), and a platinum counter electrode(CE). The electrolyte is 10% potassium hydroxide solution The potentials of the sensing electrode and blocking electrode are controlled by a bipotentiostat circuit at -0.9V and -1.1V vs. reference electrode resp. Oxygen from the sample is reduced to hydroxyl anion at the sensing electrode and a current is generated which is proportional to the oxygen concentration Dissolved oxygen and other impurities from the electrolyte are effectively blocked by the blocking electrode from interference with oxygen measurement at the sensing electrode while the hydroxyl anion can move through freely and be oxidized back to oxygen at counter electrode. There is no net change of the electrolyte composition during the oxygen measuring process. The sensor exhibits high stability and sensitivity for ppb level of oxygen measurement.
CC 79-2 (Inorganic Analytical Chemistry)
IT Gas sensors
(electrochem.; oxygen determination in gas samples by bipotentiostat driven sensor)
IT Electrodes
Gas analysis
Potentiostats
(oxygen determination in gas samples by bipotentiostat driven sensor)
IT 7440-44-0, Carbon, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(blocking electrode; oxygen determination in gas samples by bipotentiostat driven sensor)
IT 7440-06-4, Platinum, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(counter electrode; oxygen determination in gas samples by bipotentiostat driven sensor)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oxygen determination in gas samples by bipotentiostat driven sensor)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:320207 HCAPLUS Full-text
DOCUMENT NUMBER: 134:320283
TITLE: Electrochemical gas sensor assembly and method
INVENTOR(S): Finbow, John Robert; Capetanopolous, Constantine Dean
PATENT ASSIGNEE(S): Sem Corp., USA
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001031326	A1	20010503	WO 2000-GB4054	20001020 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: GB 1999-25591 A 19991028 <--

AB An electrochem. gas sensor assembly comprises an electrochem. gas sensor including sensing and counter electrodes, an intervening body of electrolyte contacting the electrodes, a diffusion control for controlling the diffusion of gas to the sensing electrode wherein a gas to be sensed is reacted at the sensing electrode, the electrode being connected in an elec. circuit, the circuit including a monitor for monitoring current flow in the circuit related to the concentration of the gas being sensed. The assembly further comprises an elec. biasing system operable in a test mode to bias the sensing electrode relative to the counter electrode to a potential at which oxygen is reduced at the sensing electrode and evolved at the counter electrode, the monitor providing an output indicating the operating condition of the sensor.

IC ICM G01N027-49
CC 79-2 (Inorganic Analytical Chemistry)
IT Gas analysis
(design and operation of electrochem. gas sensor with compensation for fluctuations in oxygen concentration)
IT Gas sensors
(electrochem.; design and operation of electrochem. gas sensor with compensation for fluctuations in oxygen concentration)
IT 7782-44-7, Oxygen, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(design and operation of electrochem. gas sensor with compensation for fluctuations in oxygen concentration)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:627167 HCAPLUS Full-text
DOCUMENT NUMBER: 135:189393
TITLE: Method and apparatus for monitoring oxygen concentration
INVENTOR(S): Cao, Tuan Q.
PATENT ASSIGNEE(S): Litton Systems, Inc., USA

SOURCE: U.S., 15 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6279377	B1	20010828	US 1998-192211	19981116 <--

PRIORITY APPLN. INFO.: US 1998-192211 19981116 <--

AB Apparatus for measuring concentration of oxygen includes a plurality of status displays, identifying concentration status relative to a plurality of thresholds, an alarm for immediate and prominent identification of status relative to a threshold of particular significance, and a quant. display indicative of an actual concentration Although measurements are performed and results are indicated relative to a number of thresholds, only a single calibration procedure is required, using only a single calibration gas. The apparatus is calibrated by adjusting a circuit parameter of one of the circuit components to vary a sensed output value to correspond to a narrow range surrounding the known concentration of the calibration gas. Both the circuit parameter and the actually sensed output value are stored. In a monitoring operation, the circuit parameter is retrieved to reset the circuit component to its calibrated setting. The monitored unknown value of concentration is scaled based o n a value in a look-up table and on the actually sensed output value of the calibration process. An interpolation between values of the look-up table is then used to identify a concentration corresponding to the scaled value.

IC ICM G01N033-497
ICS G01N021-00; G01N027-26; A61L009-00
INCL 073023310
CC 79-2 (Inorganic Analytical Chemistry)
ST app monitoring oxygen concn
IT Gases
(Calibration; method and apparatus for monitoring oxygen concentration)
IT Audiovisual aids
(charts, Look-up; method and apparatus for monitoring oxygen concentration)
IT Potentiometers
(elec. erasable; method and apparatus for monitoring oxygen concentration)
IT Alarm devices
Calibration
Concentration (condition)
Control apparatus
Electric amplifiers
Sensors
(method and apparatus for monitoring oxygen concentration)
IT Gas sensors
(oxygen; method and apparatus for monitoring oxygen concentration)
IT Information systems
(storage; method and apparatus for monitoring oxygen concentration)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(method and apparatus for monitoring oxygen concentration)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:66926 HCAPLUS Full-text
DOCUMENT NUMBER: 136:95239
TITLE: Determination of the oxygen concentration in liquids and gases by an oxygen luminescence sensor
INVENTOR(S): Osin, N. S.; Sokolov, A. S.; Mikhaylov, V. A.
PATENT ASSIGNEE(S): Gosudarstvennyi Nauchno-Issledovatel'skii Institut Biologicheskogo Priborostroeniya, Russia
SOURCE: Russ., No pp. given
CODEN: RUXXE7
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2156969	C1	20000927	RU 1999-102151	19990202 <--
PRIORITY APPLN. INFO.:			RU 1999-102151	19990202 <--

AB A device for the determination of oxygen in liqs. or gases, especially for monitoring air and water, consists of an optically coupled pulse radiation source, an oxygen luminescence sensor and a photodetector. The oxygen luminescence sensor consists of a thin-layer polymeric material with luminophors which is a fluorescein-metal porphyrin donor-acceptor pair, such as fluorescein isothiocyanate-Pd deuteroporphyrin, coproporphyrin, or uroporphyrin. The output of the detector is connected to a elec. circuit for processing the measured signals including an elec. coupled preamplifier, an AC amplifier, a unit to determine the intensity of the decaying prolonged luminescence having three detectors.

IC ICM G01N021-64
CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 59, 61, 73
IT Air analysis
Luminescent substances
(determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)
IT Optical detectors
(luminescence; determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)
IT Charge transfer complexes
RL: DEV (Device component use); USES (Uses)
(luminophor; determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)
IT Gas sensors
(oxygen, luminescence; determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)
IT 7732-18-5, Water, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)
IT 27072-45-3, Fluorescein isothiocyanate 149999-62-2 387336-11-0 387336-12-1
RL: DEV (Device component use); USES (Uses)
(luminophor; determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)

IT 7782-44-7, Oxygen, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(sensors; determination of the oxygen concentration in liqs. and gases by an oxygen luminescence sensor)

L46 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:277748 HCAPLUS Full-text
DOCUMENT NUMBER: 132:283395
TITLE: Gas concentration sensing apparatus
INVENTOR(S): Kawase, Tomoo; Kurokawa, Eiichi; Hada, Satoshi; Suzuki, Toshiyuki
PATENT ASSIGNEE(S): Denso Corporation, Japan
SOURCE: Eur. Pat. Appl., 48 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 995986	A2	20000426	EP 1999-118691	19990922 <--
EP 995986	A3	20010418		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000171439	A	20000623	JP 1999-204927	19990719 <--
JP 3983422	B2	20070926		
US 6453724	B1	20020924	US 1999-399949	19990920 <--
EP 1764613	A2	20070321	EP 2006-125003	19990922 <--
EP 1764613	A3	20070808		
R: DE, FR, GB				

PRIORITY APPLN. INFO.:
JP 1998-275521 A 19980929 <--
JP 1999-204927 A 19990719 <--
EP 1999-118691 A3 19990922 <--

AB A gas concentration sensor comprises a pump cell for detecting an oxygen concentration in an exhaust gas and a sensor cell for detecting a NOx concentration in the exhaust gas. A porous diffusive layer is interposed between these cells. Also, the sensor comprises a heater for heating these cells. A control circuit produces a sensor cell voltage having an a.c. Component to detect the impedance of sensor cell. The elec. power supplied to the heater is controlled based on a detected impedance value of the sensor cell.

IC ICM G01N027-12
CC 59-1 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 51
ST gas sensing app; exhaust gas sensor
IT Electric heaters
Exhaust gases (engine)
Gas sensors
(design and operation of gas sensor system for determination of oxygen and nitrogen oxides in automobile exhaust gases)
IT Gas sensors
(oxygen; design and operation of gas sensor system for determination of oxygen and nitrogen oxides in automobile exhaust gases)
IT 7782-44-7, Oxygen, analysis 11104-93-1, Nitrogen oxide, analysis
RL: ANT (Analyte); ANST (Analytical study)
(design and operation of gas sensor system for determination of oxygen and nitrogen oxides in automobile exhaust gases)

L46 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:161042 HCAPLUS Full-text
DOCUMENT NUMBER: 132:182965
TITLE: Gas concentration sensing apparatus capable of suppressing sensor voltage oscillation
INVENTOR(S): Suzuki, Toshiyuki; Kurokawa, Eiichi; Hada, Satoshi; Kawase, Tomoo
PATENT ASSIGNEE(S): Denso Corporation, Japan
SOURCE: Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 984275	A2	20000308	EP 1999-116051	19990816 <--
EP 984275	A3	20030108		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2000081413	A	20000321	JP 1998-251285	19980904 <--
JP 3846058	B2	20061115		
US 6478940	B1	20021112	US 1999-383383	19990826 <--
PRIORITY APPLN. INFO.:			JP 1998-251285 A	19980904 <--

AB A limit-current type air-fuel ratio (A/F) sensor produces element current responsive to oxygen concentration in the exhaust gas when a voltage is applied to its sensor element portion. An application voltage control circuit comprises an operational amplifier and resistors. An output of the control circuit is applied to one terminal of the A/F sensor via a driver circuit. The other terminal of the A/F sensor is connected to an output terminal of an operational amplifier via a current-detecting resistor. The element current value, detected by the current-detecting resistor, is returned to the application voltage control circuit via a buffer. In the application voltage control circuit, adjustment of the gain is performed in such a manner that the inclination of the application voltage line on the V-I coordinate becomes larger than the inclination equivalent to the a.c. impedance of the sensor element in the sensor activated condition.

IC ICM G01N027-407
ICS F02D041-14
CC 51-12 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 59, 80
ST gas sensing app suppression sensor voltage oscillation
IT Exhaust gases (engine)
Gas analysis
Solid electrolyte gas sensors
(exhaust gas oxygen responsive limit-current type air-fuel ratio solid electrolyte gas sensor with sensor voltage oscillation suppression)
IT Gas sensors
(oxygen; exhaust gas oxygen responsive limit-current type air-fuel ratio solid electrolyte gas sensor with sensor voltage oscillation suppression)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(sensors; exhaust gas oxygen responsive limit-current type air-fuel ratio solid electrolyte gas sensor with sensor voltage oscillation suppression)

L46 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:249245 HCAPLUS Full-text
DOCUMENT NUMBER: 130:305670
TITLE: Solid-state microelectrode oxygen sensors
AUTHOR(S): Sotiropoulos, Sotiris; Wallgren, Kirsi
CORPORATE SOURCE: Sch. Chem., Environmental and Mining Engineering, Nottingham University, University Park, Nottingham, NG7 2RD, UK
SOURCE: Analytica Chimica Acta (1999), 388(1-2), 51-62
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two types of all-solid amperometric sensors, incorporating Nafion® as the solid ionic conductor and exhibiting microelectrode behavior, were used as gaseous oxygen probes in the 1-25% (volume/volume) concentration range. The 1st one involved a Pt or Ag microdisc surrounded by a ring of the anode material, the two electrodes being in the same plane and covered by a solution-recast Nafion® film. In a modified version of this type of sensor, a Au microband was used as the indicator electrode. Well-defined sigmoidal voltammograms for oxygen reduction from the gas phase were obtained and, when used in a constant potential mode, the sensing device showed good linearity (r2 = 0.9998-0.9988) with oxygen concentration in the gas stream and a satisfactory sensitivity of 8 + 10-5 A cm-2 (%volume/volume)-1. The high detection limit of 2% (volume/volume), however, restricts the possible applications to crude monitoring in the higher oxygen concentration range. In the 2nd type of sensor, Au electrodes were vacuum-deposited as thin layers on the same face of a Nafion® membrane and a strip of uncovered ionic polymer between the two metal layers ensured completion of the elec. circuit. The gas samples were in contact with the electrode layers and oxygen reduction led to an exponential current rise over a wide potential range indicating very high mass transport rates. The sensitivity of the device was 20 nA (%volume/volume)-1 and probably with such a sensor configuration the electroactive gas reacts at the line formed by the gas/solid electrolyte/metal layer interface, i.e. at a virtual microband electrode.

CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 72

IT Gas sensors
Gas sensors
(amperometric; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT Polyoxyalkylenes, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(fluorine- and sulfo-containing, ionomers, Nafion; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT Polyoxyalkylenes, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(fluorine-containing, sulfo-containing, ionomers, Nafion; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT Fluoropolymers, analysis
Fluoropolymers, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST

(Analytical study); USES (Uses)
(polyoxyalkylene-, sulfo-containing, ionomers, Nafion; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT Ionomers
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(polyoxyalkylenes, fluorine- and sulfo-containing, Nafion; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT Ionic conductors
Microelectrodes
Polymer electrolytes
Solid electrolytes
(testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT 7782-44-7, Oxygen, uses
RL: DEV (Device component use); USES (Uses)
(sensors; testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

IT 7440-06-4, Platinum, analysis 7440-22-4, Silver, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(testing of all-solid amperometric gas sensors based on microelectrode structures and Nafion solid electrolytes and using oxygen as model gas analyte)

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:293689 HCAPLUS Full-text
DOCUMENT NUMBER: 128:316688
ORIGINAL REFERENCE NO.: 128:62585a,62588a
TITLE: Electrochemical gas sensors with PTFE heat-resistant sheath and interconnecting cables for remote sensing of oxygen in exhaust gases
INVENTOR(S): Weyl, Helmut; Wild, Bernhard; Wiedenmann, Hans-Martin
PATENT ASSIGNEE(S): Robert Bosch G.m.b.H., Germany
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819154	A1	19980507	WO 1997-DE1726	19970814 <--
W: JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 19644757	A1	19980507	DE 1996-19644757		19961029 <--
DE 19644757	C2	20010412			
DE 19717036	A1	19981029	DE 1997-19717036		19970423 <--
DE 19717036	B4	20061019			
EP 870192	A1	19981014	EP 1997-937450		19970814 <--
EP 870192	B1	20071114			
R: DE, ES, FR, GB, IT					
JP 2000503399	T	20000321	JP 1998-519861		19970814 <--
JP 10300714	A	19981113	JP 1998-111991		19980422 <--
US 6039856	A	20000321	US 1998-64437		19980422 <--
US 6342140	B1	20020129	US 1998-91968		19981105 <--
PRIORITY APPLN. INFO.:			DE 1996-19644757	A	19961029 <--
			DE 1997-19717036	A	19970423 <--
			WO 1997-DE1726	W	19970814 <--

AB A measurement device was designed, especially an electrochem. sensor, comprising a sensor element located at a measuring point with attachments for remote evaluation of data. The sensor element is located inside a housing which is connected by interconnecting elec. cables to an evaluation circuit remote from the measuring point. The interconnecting elec. cables are guided inside a protective device at least in the area close to the measuring point. The protective device (e.g., a PTFE sheath) is connected to the housing in pos. and non-pos. fit by a fastening device encompassing the housing and the protective device to form a sealing seat. The apparatus is especially useful for oxygen sensors in automobile exhaust gases.

IC ICM G01N027-407

CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 47, 59

IT Exhaust gases (engine)
(electrochem. gas sensors with PTFE heat-resistant sheath and interconnecting elec. cables for remote sensing of oxygen concentration in exhaust gases)

IT Gas sensors
(electrochem.; electrochem. gas sensors with PTFE heat-resistant sheath and interconnecting elec. cables for remote sensing of oxygen concentration in exhaust gases)

IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(sheath; electrochem. gas sensors with PTFE heat-resistant sheath and interconnecting elec. cables for remote sensing of oxygen concentration in exhaust gases)

IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in exhaust gases; electrochem. gas sensors with PTFE heat-resistant sheath and interconnecting elec. cables for remote sensing of oxygen concentration in exhaust gases)

IT 9002-84-0, PTFE
RL: DEV (Device component use); USES (Uses)
(sheath; electrochem. gas sensors with PTFE heat-resistant sheath and interconnecting elec. cables for remote sensing of oxygen concentration in exhaust gases)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:625145 HCAPLUS Full-text
DOCUMENT NUMBER: 125:264526
ORIGINAL REFERENCE NO.: 125:49055a,49058a
TITLE: Device for determination of oxygen concentration
INVENTOR(S): Asano, Ichiro; Kihara, Nobutaka

PATENT ASSIGNEE(S): Horiba Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08193972	A	19960730	JP 1995-21195	19950114 <--
JP 3521094	B2	20040419		

PRIORITY APPLN. INFO.: JP 1995-21195 19950114 <--

AB The title device is characterized by having a circuit, consisting of a 1st resistor and a 2nd resistor in series, connected with a signal amplifier line, and having a standard power source connected with the joint of the 1st and the 2nd resistors through a 3rd resistor. The device is characterized by easy and accurate zero calibration.

IC ICM G01N027-409
ICS G01N027-12; G01N027-26
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 72
ST device detn oxygen concn
IT Electric circuits
Gas analysis
(device for determination of oxygen concentration)
IT Sensors
(gas, device for determination of oxygen concentration)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(device for determination of oxygen concentration)

L46 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:561571 HCAPLUS Full-text
DOCUMENT NUMBER: 122:305477
ORIGINAL REFERENCE NO.: 122:55309a,55312a
TITLE: Oxygen concentration measuring device
INVENTOR(S): Nakamori, Yasutaka; Mizoguchi, Tomomichi; Isomura, Shigenori; Suzumura, Toshihiro
PATENT ASSIGNEE(S): Nippondenso Co., Ltd., Japan
SOURCE: U.S., 34 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5405521	A	19950411	US 1993-160094	19931201 <--
JP 07225215	A	19950822	JP 1993-247054	19931001 <--
JP 3467808	B2	20031117		

PRIORITY APPLN. INFO.: JP 1992-323213 A 19921202 <--
JP 1993-217751 A 19930901 <--
JP 1993-247054 A 19931001 <--

AB An oxygen concentration measuring device capable of significantly shortening the period of time during which oxygen concentration cannot be measured. When measuring the temperature of a sensor main body, a microcomputer dets. the

temperature of the sensor main body by estimating a saturation current starting from a current detected by a current detecting circuit in a period of time before current flowing through the sensor main body finishes rising, after the sensor main body was neg. biased by a bias control circuit. The sensor main body is pos. biased by the bias control circuit directly after the period of time has lapsed. The microcomputer dets. an air fuel ratio by using current in a period of time before current flowing through the sensor main body due to the pos. bias finishes decreasing.

IC ICM G01N027-26
INCL 204425000
CC 79-2 (Inorganic Analytical Chemistry)
Section cross-reference(s): 51, 59
IT Gas analysis
(oxygen determination in gas using limit current type gas sensor)
IT Sensors
(gas, oxygen determination in exhaust gas using limit current type gas sensor)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oxygen determination in exhaust gas using limit current type gas sensor)

L46 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:196734 HCAPLUS Full-text
DOCUMENT NUMBER: 124:249086
ORIGINAL REFERENCE NO.: 124:45795a,45798a
TITLE: Apparatus for determining oxygen concentration
INVENTOR(S): Hasegawa, Jun; Isomura, Shigenori; Mizoguchi, Tomomichi; Nakamori, Yasutaka
PATENT ASSIGNEE(S): Nippondenso Co., Ltd., Japan
SOURCE: Ger. Offen., 40 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19522178	A1	19951221	DE 1995-19522178	19950619 <--
JP 08005605	A	19960112	JP 1994-136816	19940620 <--
JP 3404892	B2	20030512		
JP 08015215	A	19960119	JP 1994-145910	19940628 <--
JP 3475494	B2	20031208		
JP 08015216	A	19960119	JP 1994-149098	19940630 <--
US 5547552	A	19960820	US 1995-480239	19950607 <--
GB 2290618	A	19960103	GB 1995-12441	19950619 <--
GB 2290618	B	19980610		

PRIORITY APPLN. INFO.: JP 1994-136816 A 19940620 <--
JP 1994-145910 A 19940628 <--
JP 1994-149098 A 19940630 <--

AB To shorten the period of time during which the oxygen concentration (e.g. in the exhaust gas of a combustion engine) cannot be determined, the temperature of the probe section is determined while the latter is biased by a neg. bias control circuit. A microcomputer is used to calculate the saturated current from it, and especially before the current flowing through the probe section ceases, in order to increase the current which is determined at that time by a current-detection circuit. In addition, the probe section is biased pos. following a time lapse, and the air/power fuel ratio is determined by the

microcomputer when the current flow through the probe section stops falling as a consequence of the pos. bias. Furthermore, the period during which the neg. bias is increased is defined by the microcomputer to be variable and responds to changes in the motor and machine temps. and the quantity of introduced air. The temperature of the probe section is also determined and controlled by heating in order to rapidly actuate the probe.

IC ICM G01N027-409
ICS G01M015-00; F02D041-06; F02D041-14
CC 79-2 (Inorganic Analytical Chemistry)
ST oxygen concn probe sensor motor exhaust; combustion engine oxygen sensor exhaust gas
IT Gas analysis
(apparatus for determining oxygen concentration in exhaust gas of combustion engines)
IT Sensors
(gas, probes for determining oxygen concentration in exhaust of combustion engines)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(apparatus for determining oxygen concentration in exhaust gas of combustion engines)

L46 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:260103 HCAPLUS Full-text
DOCUMENT NUMBER: 122:45290
ORIGINAL REFERENCE NO.: 122:8455a,8458a
TITLE: Apparatus for monitoring gaseous oxygen concentration
INVENTOR(S): Hart, Russell F.; Cao, Tuan Q.
PATENT ASSIGNEE(S): Litton Systems, Inc., USA
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 624797	A2	19941117	EP 1994-107312	19940510 <--
EP 624797	A3	19950920		
EP 624797	B1	20020227		
R: DE, FR, GB				
JP 06331590	A	19941202	JP 1994-85179	19940425 <--
JP 2791277	B2	19980827		
CA 2122521	A1	19941112	CA 1994-2122521	19940429 <--
CA 2122521	C	19981027		
PRIORITY APPLN. INFO.:			US 1993-60275 A	19930511 <--

AB The apparatus includes an oxygen sensor for providing an elec. sensor signal that varies as a function of oxygen concentration at the sensor. Processor circuitry compares oxygen concentration indicated by the sensor signal to ≥1 threshold level, and indicates when such oxygen concentration at the sensor departs from such threshold concentration level. The apparatus is calibrated by exposing the sensor to a calibration gas having an oxygen concentration equal to the desired threshold concentration level, and storing in the processor circuitry elec. indicia indicative of operating characteristics of the sensor at such threshold oxygen concentration level. When the apparatus is thereafter employed for monitoring a gas of undetd. oxygen concentration, the operating characteristics of the sensor reflected by the sensor output signal

are compared to the prestored indicia for determining when oxygen concentration at the sensor crosses the threshold concentration level.
IC ICM G01N033-00
CC 79-2 (Inorganic Analytical Chemistry)
ST gaseous oxygen concn monitoring app
IT Sensors
(gas, for monitoring oxygen concentration)
IT 7782-44-7, Oxygen, analysis
RL: ANT (Analyte); ANST (Analytical study)
(apparatus for monitoring concentration of gaseous)

L46 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:594367 HCAPLUS Full-text
DOCUMENT NUMBER: 121:194367
ORIGINAL REFERENCE NO.: 121:35003a,35006a
TITLE: Techniques for measurement of oxygen and air-to-fuel ratio using zirconia sensors. A review
AUTHOR(S): Benammar, M.
CORPORATE SOURCE: Energy Technol. Cent., Middlesex Univ., London, N11 2NQ, UK
SOURCE: Measurement Science and Technology (1994), 5(7), 757-67
CODEN: MSTCEP; ISSN: 0957-0233
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB The various techniques for measurement of oxygen concentration/partial pressure using sensors employing zirconia electrolytes are reviewed with 40 refs. Zirconia-based air-to-fuel ratio sensors used in combustion applications are also discussed. A solid electrolyte cell incorporating two electrodes on each opposing side may be used as a potentiometric oxygen sensor; this requires a reference gas and provides a logarithmic output. An oxygen pump-gauge device normally consists of two solid electrolyte cells assembled to enclose an internal volume Pump-gauge devices can be operated in various modes requiring simple electronic circuitry. Devices operating in steady state modes incorporate a diffusion path between the internal volume and the sample gas and provide an output proportional to the oxygen concentration in the sample gas. Pump-gauges operating in oscillatory modes may be fully sealed or may incorporate a diffusion path; they enable both oxygen concentration and partial pressure to be determined
CC 79-0 (Inorganic Analytical Chemistry)
Section cross-reference(s): 51, 72
IT Sensors
(gas, zirconia-based, for determination of oxygen and air ratio to fuel)
IT 7782-44-7, Oxygen, analysis
RL: ANST (Analytical study)
(determination of ratio of, to fuel, using zirconia sensor)

L46 ANSWER 22 OF 26 COMPENDEX COPYRIGHT 2008 EEI on STN
ACCESSION NUMBER: 1984(10):171297 COMPENDEX Full-text
DOCUMENT NUMBER: 8410107043
; *8482604
TITLE: Odorizing of Natural Gas with Mercaptans. ODORIERUNG VON ERDGAS MIT MERCAPTANEN.
AUTHOR: Schmidt, Herbert (Stadtwerke Muenchen, Munich, West Ger)
SOURCE: Gas Wasserfach Gas Erdgas v 125 n 3 Mar 1984 p 142-148
SOURCE: Gas Wasserfach Gas Erdgas v 125 n 3 Mar 1984 p 142-148
CODEN: GWGEAQ ISSN: 0016-4909
PUBLICATION YEAR: 1984

LANGUAGE: German
AB Since the end of 1978, gases imported into the FRG from the Soviet Union have been contaminated with highly variable mercaptan contents.The hitherto used technique of odorizing with tetrahydrothiophene leads in the case of these gases to a mixed odorizing with nonuniform odor characteristics.Odorizing with mercaptans offers, in addition to the attainment of a uniform odor, other advantages.The experience gained in converting over from odorizing with tetrahydrothiophene to odorizing with mercaptans is described.A closed measurement and control circuit is described which ensures continuous adaptation of the odorizing process to the mercaptan content of the imported gas.7 refs.In German.
AN 1984(10):171297 COMPENDEX DN 8410107043; *8482604 Full-text
CC 512 Petroleum & Related Deposits; 522 Gas Fuels
CT *NATURAL GAS:Odorizing
ST MERCAPTANS

L46 ANSWER 23 OF 26 INSPEC (C) 2008 IET on STN DUPLICATE 1
ACCESSION NUMBER: 1999:6391363 INSPEC Full-text
DOCUMENT NUMBER: A1999-23-4281P-012; B1999-12-7230E-012
TITLE: Demonstration of a high-temperature fiber-optic gas sensor made with a sol-gel process to incorporate a fluorescent indicator
AUTHOR: Remillard, J.T.; Jones, J.R.; Poindexter, B.D.; Narula, C.K.; Weber, W.I. (Res. Lab., Ford Motor Co., Dearborn, MI, USA)
SOURCE: Applied Optics (1 Sept. 1999), vol.38, no.25, p. 5306-9, 18 refs.
CODEN: APOPAI, ISSN: 0003-6935
SICI: 0003-6935(19990901)38:25L.5306:DHTF;1-Z
Price: 0003-6935/99/255306-04$15.00/0
Published by: Opt. Soc. America, USA
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
COUNTRY: United States
LANGUAGE: English
AB To make a gas sensor suitable for use at high temperatures, we have used a sol-gel-processing technique to bond a copper-exchanged zeolite fluorescence indicator onto the end of an all-silica optical fiber. Experimental results from single-fiber prototype sensors show they can be used to measure either the oxygen concentration or the equivalence ratio for gas mixtures containing weak or strong reductants, respectively
AN 1999:6391363 INSPEC DN A1999-23-4281P-012; B1999-12-7230E-012 Full-text
CC A4281P Fibre optic sensors; fibre gyros; A8115L Deposition from liquid phases (melts and solutions); A0720K High-temperature techniques and instrumentation; pyrometry; A4281B Optical fibre fabrication, cladding, splicing, joining; A8230H Chemical exchanges (substitution, atom transfer, abstraction, disproportionation, and group exchange); A8280T Chemical sensors; B7230E Fibre optic sensors; B4125 Fibre optics; B0520J Deposition from liquid phases; B7320T Chemical variables measurement; B7230L Chemical sensors
CT chemical exchanges; chemical variables measurement; fibre optic sensors; fluorescence; gas mixtures; gas sensors; high-temperature techniques; optical fibre fabrication; sol-gel processing; zeolites
ST high-temperature fiber-optic gas sensor; sol-gel process; fluorescent indicator; gas sensor; sol-gel-processing technique; Cu-exchanged zeolite fluorescence indicator; all-silica optical fiber; single-fiber prototype sensors; equivalence ratio; gas mixtures; strong reductants; weak

reductants; O2 concentration; SiO2; Cu; O2
CHI SiO2 bin, O2 bin, Si bin, O bin; Cu el; Cu ss; O2 el, O el
ET O; Si

L46 ANSWER 24 OF 26 INSPEC (C) 2008 IET on STN
ACCESSION NUMBER: 1989:3334265 INSPEC Full-text
DOCUMENT NUMBER: A1989-036881; B1989-026413
TITLE: Electrical response of oxygen sensing TiO2 surfaces and fractal Pt/YSZ interfaces
AUTHOR: Nicoloso, N.; Kernler, W.; Leibold, B.; Lobert, A.; Weppner, W. (Max-Planck Inst. fur Festkorperforschung, Stuttgart, West Germany)
SOURCE: Solid State Ionics, Diffusion & Reactions (Sept. 1988), vol.28-30, pt.2, p. 1637-43, 14 refs.
CODEN: SSIOD3, ISSN: 0167-2738
Price: 0167-2738/88/$03.50
Conference: 6th International Conference on Solid State Ionics, Garmisch-Partenkirchen, West Germany, 6-11 Sept. 1987
DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Experimental
COUNTRY: Netherlands
LANGUAGE: English
AB Titania and YSZ single crystals with 9.4 mol.% Y2O3 have been investigated by impedance, voltage relaxation and current-voltage studies. In the case of TiO2 separation of the surface boundary layer conductivity from the bulk conductivity yields a first indication of rather different P(O2) dependences in the two domains. For high current densities and CO2/O2 gas mixtures the apparent exchange current density of YSZ is enhanced by up to a factor of 40 in the low temperature regime. At T≥750°C the CO2 effect vanishes and the exchange gets independent of gas composition and temperature. A similar continuous change is observed in the impedance of Pt/O2/YSZ under blocking conditions. The fractal description of the system proved to be unsatisfactory. Especially, there is a disagreement with the Nyikos and Pajkossy model of the impedance of fractal blocking electrodes. It appears that the morphology of the platinum is not the unique parameter determining the interface properties
AN 1989:3334265 INSPEC DN A1989-036881; B1989-026413 Full-text
CC A7325 Surface conductivity and carrier phenomena; A0670D Sensing and detecting devices; A8280 Chemical analysis and related physical methods of analysis; B7230 Sensing devices and transducers; B7320T Chemical variables measurement
CT electric sensing devices; gas sensors; oxygen; platinum; surface conductivity; titanium compounds; yttrium compounds; zirconium compounds
ST O sensing surfaces; impedance; voltage relaxation; surface boundary layer conductivity; bulk conductivity; exchange current density; fractal description; TiO2; Y2O3ZrO2-Pt; O2
CHI Y2O3ZrO2-Pt int, Y2O3ZrO2 int, O2 int, O3 int, Pt int, Y2 int, Zr int, O int, Y int, Y2O3ZrO2 ss, O2 ss, O3 ss, Y2 ss, Zr ss, O ss, Y ss, Pt el; O2 el, O el; TiO2 sur, O2 sur, Ti sur, O sur, TiO2 bin, O2 bin, Ti bin, O bin
ET O; O*Zr; O3ZrO2; O cp; cp; Zr cp; O3ZrO; Pt; O*Y*Zr; O sy 3; sy 3; Y sy 3; Zr sy 3; Y2O3ZrO; Y cp; Y; Zr; Ti; O*Ti; TiO; Ti cp; TiO2; O*Y; Y2O3; C*O; CO2; C cp; T; C

L46 ANSWER 25 OF 26 INSPEC (C) 2008 IET on STN
ACCESSION NUMBER: 1939:B02789 INSPEC Full-text
DOCUMENT NUMBER: 1939B02789

TITLE: Stability of linear circuits of reaction coupling with concentrated constants
AUTHOR: Mikhailov, A.W.
SOURCE: Journal of Technical Physics (1939), vol. 9, no. 1, p. 19-31
DOCUMENT TYPE: Journal
COUNTRY: USSR
LANGUAGE: Russian

AB The paper is a development of Nyquist's theory of the stability of the linear reaction coupling currents and an investigation of its applicability to wireless and automatic control. The use of Nyquist's criterion is confined to a class of circuits the amplification factor of which, for their closed state, is tending towards zero for increasing frequency of the acting power. Practically, however, in mathematical calculations of systems with concentrated constants a wider class has to be dealt with, the amplifying factor of which not only might tend towards zero but as well to any finite or infinite value. In connexion herewith the author examines the applicability of the criterion of Nyquist, and the limitations of it, to systems with concentrated constants and, furthermore, new criteria of stability are established based upon the analysis of the amplification-phase characteristics of open as well as closed reaction coupling circuits.

AN 1939:B02789 INSPEC DN 1939B02789 Full-text
CC B5200 Electromagnetic waves, antennas and propagation; B6000 Communications
CCO Radio, electric waves and oscillations
CT coupled circuits
CTO coupled circuits

L46 ANSWER 26 OF 26 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on STN
*** answer deleted - irrelevant ***

***** SEARCH HISTORY *****

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=> d his nofile

     (FILE 'HOME' ENTERED AT 14:00:15 ON 09 OCT 2008)

     FILE 'HCAPLUS' ENTERED AT 14:00:27 ON 09 OCT 2008
L1            1 SEA ABB=ON  PLU=ON  US20070191524/PN
                D IBIB AB IT SC

     FILE 'REGISTRY' ENTERED AT 14:01:16 ON 09 OCT 2008
L2            1 SEA ABB=ON  PLU=ON  OXYGEN/CN
L3            1 SEA ABB=ON  PLU=ON  7782-44-7/RN
L4            1 SEA ABB=ON  PLU=ON  L2 OR L3

     FILE 'HCAPLUS' ENTERED AT 14:01:52 ON 09 OCT 2008
L5       890933 SEA ABB=ON  PLU=ON  OXYGEN OR L4
                E OXYGEN, ANALYSIS/CT
                E ANALYSIS/CT
                E E3+ALL
L6       267509 SEA ABB=ON  PLU=ON  L5 (P) (ANALY? OR PROCESS? OR DETECT? OR
                MEASUR?)
                E GAS SENSORS/CT
                E E3+ALL
L7        23138 SEA ABB=ON  PLU=ON  "GAS SENSORS"+OLD,UF/CT
L8         3741 SEA ABB=ON  PLU=ON  L7 (L) L5
L9         3229 SEA ABB=ON  PLU=ON  L6 AND L8
L10        1999 SEA ABB=ON  PLU=ON  L9 (L) (APPARATUS? OR DEVICE? OR METHOD?
                OR INSTRUMENT? OR PROCESS?)
L11           1 SEA ABB=ON  PLU=ON  OSI MATERIAL#
L12        1886 SEA ABB=ON  PLU=ON  OSI
L13           1 SEA ABB=ON  PLU=ON  L10 AND L12
                D SCAN TI
L14       32400 SEA ABB=ON  PLU=ON  L5 (L) (SCAVENG? OR SENSOR? OR SENSING?)
L15       21767 SEA ABB=ON  PLU=ON  L14 AND (ANALY? OR PROCESS? OR DETECT? OR
                MEASUR?)
L16           3 SEA ABB=ON  PLU=ON  L15 AND OSI
                D SCAN TI HIT
L17           3 SEA ABB=ON  PLU=ON  (CLOSE? REACT? OR CLOSE? MEASUR?) (2A)
                (CIRCUIT#)
                D SCAN TI HIT
L18         337 SEA ABB=ON  PLU=ON  L10 AND (OXYGEN CONCENT?)
L19          28 SEA ABB=ON  PLU=ON  L18 AND CIRCUIT?
L20           5 SEA ABB=ON  PLU=ON  L19 AND (GAS MIXTURE? OR CLOSE? REACT? OR
                CLOSE? CIRCUIT? OR MEASUR? CIRCUIT?)
                D SCAN TI
L21        1613 SEA ABB=ON  PLU=ON  L15 AND (OXYGEN CONCENT?)
L22          63 SEA ABB=ON  PLU=ON  L21 AND (GAS MIXTURE? OR CLOSE? REACT? OR
                CLOSE? CIRCUIT? OR MEASUR? CIRCUIT?)
L23           1 SEA ABB=ON  PLU=ON  L22 AND OSI
                D TI
L24          39 SEA ABB=ON  PLU=ON  L22 AND (APPARATUS? OR DEVICE? OR METHOD?
                OR INSTRUMENT? OR PROCESS? OR PROCEDURE?)
                E COLORIMETRIC INDICATORS/CT
                E E3+ALL
L25        1743 SEA ABB=ON  PLU=ON  "COLORIMETRIC INDICATORS"+OLD,UF/CT
L26           1 SEA ABB=ON  PLU=ON  L24 AND L25
L27           1 SEA ABB=ON  PLU=ON  L22 AND L25
L28          28 SEA ABB=ON  PLU=ON  L19 OR L23 OR L26 OR L27
                SAVE TEMP L28 MUI971HCAP/A
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     FILE 'STNGUIDE' ENTERED AT 14:21:20 ON 09 OCT 2008

     FILE 'HCAPLUS' ENTERED AT 14:24:38 ON 09 OCT 2008
L29          21 SEA ABB=ON  PLU=ON  L28 AND (AY<2004 OR PY<2004 OR PRY<2004)
                SAVE TEMP L29 MUI971HCAP/A

     FILE 'COMPENDEX, INSPEC, PASCAL, SCISEARCH' ENTERED AT 14:25:54 ON 09 OCT
     2008
L30       44323 SEA ABB=ON  PLU=ON  OXYGEN (W) (CONCENTRAT? OR ANALY? OR
                SCAVENG? OR SENSOR? OR SENSING? OR DETECT? OR MEASUR?)
L31       18460 SEA ABB=ON  PLU=ON  L30 AND (APPARATUS? OR DEVICE? OR METHOD?
                OR INSTRUMENT? OR PROCESS?)
L32         415 SEA ABB=ON  PLU=ON  L31 AND (GAS MIXTURE? OR CLOSE? REACT? OR
                CLOSE? CIRCUIT? OR MEASUR? CIRCUIT?)
L33          54 SEA ABB=ON  PLU=ON  L32 AND (OXYGEN (W) SCAVENG? OR INDICAT?)

L34           0 SEA ABB=ON  PLU=ON  L33 AND (COLOR? OR COLORMET?)
L35           7 SEA ABB=ON  PLU=ON  L33 AND CHARACTER?
                D TI KWIC 1-3
L36           0 SEA ABB=ON  PLU=ON  L33 AND CHARACTER? (W) OXYGEN
L37       16676 SEA ABB=ON  PLU=ON  (INDICAT? OR SCAVENG? OR CHARACTER?) (W)
                (METHOD? OR APPARATUS? OR DEVICE? OR INSTRUMENT?)
L38           0 SEA ABB=ON  PLU=ON  L33 AND L37
L39           5 SEA ABB=ON  PLU=ON  L33 AND GAS SENSOR?
                D SCAN
L40          50 SEA ABB=ON  PLU=ON  L33 NOT (FOOD OR PACKAGING?)
L41          17 SEA ABB=ON  PLU=ON  L33 AND (SENSOR? OR SENSING?)
L42      254657 SEA ABB=ON  PLU=ON  CHEMICAL ANALY?
L43           0 SEA ABB=ON  PLU=ON  L42 AND L33
L44           7 SEA ABB=ON  PLU=ON  (L17 OR L39) NOT (FOOD OR PACKAGING OR
                FOOD PRODUCT# OR FOOD TECHNO?)
                D SCAN
L45           7 SEA ABB=ON  PLU=ON  L44 AND (AY<2004 OR PY<2004 OR PRY<2004)
                D QUE L29
                D QUE L45

     FILE 'HCAPLUS, COMPENDEX, INSPEC, PASCAL, SCISEARCH' ENTERED AT 14:57:19
     ON 09 OCT 2008
L46          26 DUP REM L29 L45 (2 DUPLICATES REMOVED)
                     ANSWERS '1-21' FROM FILE HCAPLUS
                     ANSWER '22' FROM FILE COMPENDEX
                     ANSWERS '23-25' FROM FILE INSPEC
                     ANSWER '26' FROM FILE SCISEARCH
                D L46 1-21 IBIB ABS HITIND
                D L46 22-26 IBIB AB IND
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